



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Re patent
appln. of:

Kosta L. PELONIS

Serial No.: 09/996,842

Filed: November 29, 2001

For: **PORTABLE HEATER**

Examiner: John A. Jeffery

Art Unit: 3742

Att'y Docket: 305-01

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20231 on September 23, 2002

Alex Sluzas

Alex R. Sluzas, Reg. No. 28,66

Dated: September 23, 2002

BOX AMENDMENT - NO FEE
Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL SHEET

Dear Sirs:

Please find enclosed the following for filing in the U.S. Patent and Trademark
Office:

- 1) This transmittal sheet;
- 2) Response; and
- 3) Acknowledgement post card to be date-stamped and returned to Paul and Paul.

No fee is believed to be required with the filing of this Response. However, if a fee
is required the Office is hereby authorized to charge any additional fee, or credit any
overpayment, to our Deposit Account No. 16-0750, Order No. 0901.

Respectfully submitted,

Alex Sluzas

Alex R. Sluzas
Registration No. 28,669

September 23, 2002

Order No. 0901

PAUL AND PAUL
Suite 2900
Two Thousand Market Street
Philadelphia, PA 19103
(215) 568-4900

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Commissioner for Patents
Washington, DC 20231

RESPONSE

Dear Sir:

This is in response to the Examiner's Action dated August 15, 2002 setting a three-month shortened statutory period for response. This response is being filed on September 23, 2002, within the additional shorted statutory period.

Claims 1-7 are pending in the present application.

Claims 1 and 7 stand rejected under 35 U.S.C. § 102(b) as being anticipated by French Patent 889834 ("Burret"). This rejection is respectfully traversed and reconsideration and withdrawal are respectfully requested.

The Examiner notes that Burret discloses a portable, sealed radiator 4 comprising a plurality of tubular radiator units 5, diathermal fluid therein, electric heating elements 12 in the center of the sealed radiator. The Examiner further notes that a fan 25 is disposed above the radiator, and the fan directs air "on" the upper portions of the tubular radiator units by aspirating airflow from the bottom towards the top.

However, Burret does not meet all the limitations of applicant's independent claim 1, and consequently that claim is not anticipated by Burret's disclosure. In particular, claim 1 requires a sealed radiator, while Burret's radiator is not sealed. As is apparent in the Figure, and as is stated in Burret at page 2, lines 20-25, the turbine wheel 18 is mounted on a tubular spindle 20 projecting out of the upper reservoir 4 for the diathermal fluid. The spindle 20 is pierced with holes 21, and according to the Figure, the holes through both lower portion of the spindle, which is immersed in the diathermal fluid, and the upper portion of the spindle, which extends through the upper, air-filled chamber 27. No seals are disclosed to be provided for the spindle to seal the upper reservoir 4 from the upper air-filled chamber 27. Further, providing seals would likely defeat the purpose of the invention, one of ordinary skill in the art would expect that such seals would load the spindle against rotation. Since the fan 25 must be driven hydraulically by the turbine wheel 18, powered by thermal circulation of the diathermal fluid, even a very light additional load would likely lock up the turbine/spindle/fan.

In addition, despite the Examiner's assertion to the contrary, Burret does not meet the limitation that the fan directs air on the upper portions of the tubular units. Instead, as the Examiner admits, the fan draws air through the upper portions of the tubular units. "Direct" is clearly being used in applicant's disclosure in the sense of blowing air, and this is expressly stated in the specification at page 4, lines 10-12. Further, even were the Examiner's interpretation of "direct" correct, there is nothing in the reference disclosing that the fan is effective to enhance thermal convection of the diathermal fluid within the tubular units. The fan draws air through the entire length of the tubular units, and through the inner units and the outer units, while simultaneously inhibiting thermal convection by loading fluid flow through the turbine provided.

Because there are at least some limitations of applicant's independent claim 1 that the cited reference does not meet, the presently claimed invention is not anticipated by the cited

reference. Reconsideration and withdrawal of the rejection entered under 35 U.S.C. 102(b) are respectfully requested for this reason.

Further, applicant's presently claimed invention would not be obvious to one of ordinary skill in the art in light of Burret. Burret has a completely different objective compared with the objective of the present invention. Namely, the fan blade of the present invention serves to remove heat from the top of the radiator, thus reducing the temperature of the oil filled radiator at the top, so that faster oil circulation occurs at a reduced temperature and within safety limits, so that the heater can operate continuously. Unlike Burret, in the present invention heat is not directed directly upwards to the ceiling, but rather is forced downwards, so that heat is distributed at lower levels, where it can be absorbed by the occupants of the room in which the heater of the present invention is placed. Further, the provision of the auxiliary fan provides a forced air flow promoting heat transfer to a greater extent than can be expected for Burret's device.

Burret discloses harnessing the diathermal flow created by the temperature differential within the radiator device to power a fan for circulating air through the cooling fins attached to the circulation tubes. There is nothing in Burret to teach or suggest to one of ordinary skill in the art that air be directed over a specific portion of the circulation tubes in order to enhance the thermal convection of the diathermal fluid, or that the airflow be directed downward through the cooling tubes.

Claims 2-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Burret in view of U.S. Patent 2,075,323 ("Woolley"). This rejection is also respectfully traversed, and reconsideration and withdrawal of the rejection are respectfully requested.

The Examiner states that the rejected claims differ from the previously cited art in calling for a centrifugal fan wherein an electric motor driving the fan operates at low speed.

The Examiner further states that, as is well known in the art, the speed of the fan in heat radiators is directly proportional to the convective heating effect. The Examiner explains that driving a fan at higher speed will result in greater convective heating effect as compared with lower speed. The Examiner states that, for example, Woolley at page 2, lines 19-28, discloses driving a fan in conjunction with a radiator for heating a room at reduced speed, citing in particular the expression "half or other partial speed" at lines 26-27, depending on the temperature setting.

The Examiner concludes that, in view of Woolley, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a reduced fan speed setting in the previously described apparatus so that a reduced convective heating effect was achieved, thereby avoiding overheating the space to be heated.

Regarding claim 2, the Examiner states that centrifugal fans are conventional and well known in the art in view of their high efficiency and low noise and their use does not constitute a patentably distinguishable characteristic of the invention.

The Examiner's conclusion is incorrect.

The combination proposed by the Examiner does not meet limitations of the present claims, and no *prima facie* case is established thereby.

The primary reference discloses a fan hydraulically powered by the thermal convective flow of the diathermal fluid. The flow is the independent variable, and the fan speed is the dependent variable. The only way to control the fan speed in Burret's device is by changing the amount of current delivered to the heating elements to change the temperature differences between the heating chamber and the cooling tubes. The fan speed could in theory be reduced by modifying the turbine, such as by providing some device to change the angle of attack of the turbine blades. However, this would likely increase the diathermal flow because it would reduce the hydraulic load of the turbine/fan on the flowing diathermal fluid, at least initially. Further

Burret directs hot air upward away from the cooling tubes, and towards the ceiling of the room, rather downward, through the tubes, and towards the floor.

Woolley discloses a conventional steam radiator 15 shrouded with a casing 20 and having a cover 17 on top in which are installed a plurality of electric motor-driven fans 19 for directing air downward between through the radiator 15. As the Examiner notes, the speed of the electric motors is variable. However, there is nothing in Woolley to suggest that varying the speed of the fans would change the rate of flow of the diathermal fluid in the radiator. In this conventional radiator the diathermal fluid passes through the radiator, and does not circulate within the radiator. The speed of "circulation" is likely controlled by other variables, such as the extent to which the valve controlling flow of steam into the radiator is opened, the pressure of the steam generated by the system situated external to this Woolley 's device, the size of the distribution piping, etc.

It is not possible to combine Burret and Woolley to arrive at the present invention except by a reconstruction guided by hindsight that does violence to the objectives of those inventors. Burret disclosed a self-contained heater; Woolley discloses a radiator for use as an element in a heating system where the diathermal fluid is heated centrally. Burret's heater is cylindrical and is not enclosed; Woolley 's radiator is rectilinear and encased in a decorative cover. The circulation of Burret's diathermal fluid powers Burret's fan; Woolley's fans are independently driven by a different source of power. Burret directs air upward, away from the heating tubes; Woolley directs air downward, through the heating units. There is no obvious way to combine these two references, and nothing in them, considered either individually or in combination, would suggest applicant's presently claimed invention to one of ordinary skill in the art.

Reconsideration and withdrawal of the rejection entered under 35 U.S.C. 103(a) over Burret in view of Woolley are respectfully requested for these reasons.

Serial No.: 09/996,842
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As the application is now believed to be in condition for allowance, early favorable action and an early notice of allowance are respectfully requested.

Respectfully submitted,



September 23, 2002

Alex R. Sluzas
Registration No. 28,669

Paul and Paul
2900 Two Thousand Market Street
Philadelphia, PA 19103
Telephone (215) 568-4900
Fax (215) 567-5057

Order No.: 0901